

★ news release

FEATURE MATERIAL

In the summer of 1961, several marine biologists from the Sandy Hook Laboratory and from other organizations, including the Bureau of Commercial Fisheries, and the New Jersey State Laboratory began a cooperative shark survey in coastal

waters from western Long Island to northern Delaware. Here their longlining activities aroused tremendous interest among sport fishermen who pursue sharks as gamefish.

An invaluable aid to that first season's success came from the loan to the Sandy Hook Laboratory of the Cape May, a research vessel of the Smith Research and Development Corporation of Lewes, Del. The tally from this limited study area came to 311 sharks of 10 species that first season. The prize catch was a 12-foot, 1,100-pound tiger; up to this time it was not known that such large tiger sharks ever came north of Hatteras.

Meanwhile, oceanographers were recording water and air temperatures and other environmental features associated with the area where the sharks were being caught. They hoped to learn what factors in the environment cause sharks to congregate in an area or to leave it. One of the season's big surprises was discovery of the great abundance and the large size of the sharks found in these waters.

When word got around in 1962 that the shark studies were underway again, many fishermen began offering to help. Some aspects of the study were highly technical, but there was one way they really could be of assistance--they could tag sharks. Tagging is always an important part of any population study of animals, because it helps reveal their numbers and travels.

But correct identification of the animal is one of the big problems in any tagging program, and fishermen say sharks are especially hard to identify. To help the cooperating fishermen, Casey has written an "Anglers' Guide to Sharks of the Northeastern United States." (It can be purchased from the U. S. Government Printing Office in Washington, D. C., for 25 cents.) The Guide has information on 34 shark species found from Maine to Chesapeake Bay.

Casey has listed 20 harmless sharks--those that have never been known to attack anyone along United States coasts--ranging from the 2½-foot dogfish to the 45-foot-long whale shark, largest known living fish. Sharks he discusses which have sinister reputations in one part of the world or another include the white, tiger, hammerhead, and gray sharks. Only the white shark has been identified in certain attacks on bathers north of Hatteras; however, the species has not been identified in most attacks, thus casting suspicion on a number of other sharks. Lemon and nurse sharks have attacked people in southern waters; but usually, according to record, these had first been annoyed by unthinking swimmers.

Tagging a shark is not easy. First you must hook it; then you have to lead it closely enough to the boat to insert the tag in its back. There are no docile sharks, so the angler must play his catch until it is too tired to offer much resistance.

The Sandy Hook Laboratory will supply anglers with the tags--yellow plastic streamers fastened to stainless steel darts shaped like arrowheads. The dart is attached to a 6-to 10-foot pole. The dart is inserted near the shark's first

dorsal fin, a downward thrust of considerable force being necessary to penetrate the shark's thick hide. A swift backward pull releases the pole. Casey says a shark probably feels only a mild pain and is not bothered by the tag.

Only three tagged sharks have been reported to date--all retaken within a couple of weeks after being tagged. Much better returns are expected in the future, according to Casey. Ways of improving the tags are under study and more people will be looking for the tagged sharks as a result of the wide publicity the program is receiving. Information on tagged sharks is used by the Sandy Hook Laboratory to determine shark movements along the coast, their numbers, and their behavior patterns. Dangerous sharks are not tagged and released.

The past three years' study has revealed much about sharks in these Middle Atlantic Coast waters. Considerable information has been compiled on the kinds, abundance, and size of the sharks, on the temperature and depth of the water they seem to prefer, and even on the location of the nursery grounds for some of them.

Studies show that the sandbar, most common shark in East Coast waters, has its pupping grounds in Delaware Bay, for fishermen have taken very young sandbars in 3- to 15-foot depths.

The capture of 15 young white sharks during the late spring of 1963 in a study area off Sandy Hook--the largest number of white sharks ever to be reported from anywhere in the Atlantic in a single year--indicates this area falls within the nursery grounds of the "maneater." And while they were small as far as "whites" go (5 to 7 feet) they are every bit as dangerous as their 30- to 35-foot elders.

The dogfish shark breeds in these waters, too. Three dogfish babies, saved from their dead mother, were kept several months in a 200-gallon aquarium at Sandy Hook. Much first-hand information was obtained on their habitat preferences and behavior. Marine biologists are looking to the time when facilities at the new National Fisheries Center and Aquarium in Washington, D. C., will be available for such studies of marine animals on a much greater scale.

Shark tagging has been resumed this year along the East Coast. Shark anglers wishing to aid these studies are urged to call or write John G. Casey at the Sandy Hook Marine Laboratory, Bureau of Sport Fisheries and Wildlife, U. S. Department of the Interior, Highlands, New Jersey.

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Note to Editors: Suitable photographs to illustrate this feature can be obtained from the Information Office, Fish and Wildlife Service, 3004 Interior Building, Washington, D. C. 20240.